

## IN THE SPECIFICATION

Please replace paragraph [0010] at page 5, with the following rewritten paragraph:

The host device 106 sends a read command from the tag 101 to a communication control unit ~~120~~ 119 via a host interface unit ~~121~~ 120. Upon receipt of the read command from the ~~communication control~~ host interface unit 120, ~~a base band processing the communication control~~ unit 119 edits outgoing data in a predetermined manner, filters the edited data, and sends the filtered data to an ASK modulation unit 117 as a base band signal. The ASK modulation unit 117 carries out ASK (amplitude shift keying) modulation by use of a frequency  $f_0$  of a frequency synthesizer 116.

Please replace paragraph [0011] at page 6, with the following rewritten paragraph:

The frequency synthesizer 116 sets the frequency under control of the communication control unit ~~120~~ 119. Generally, the transmission frequency to an RF tag is determined through hopping so as to reduce standing waves and multipath interference in the signal coming from the tag. A hopping command is also given by the communication control unit ~~120~~ 119. An outgoing signal having undergone ASK modulation is forwarded to a circulator 114 before being emitted to the tag 101 from the antenna 105.

Please replace paragraph [0047] at page 21, with the following rewritten paragraph:

The signal processing unit 303 converts picture data coming from the camera unit 302 into JPEG (Joint Photographic Experts Group) or some other suitable format. The picture data thus converted is placed into an external memory card 307 for storage through the memory card interface ~~204~~ 304.

Please replace paragraph [0055] at page 24, with the following rewritten paragraph:

At the time of data reception, the radio frequency switch 311 is turned on along with the ASK detection unit 313 by control signals coming from the signal processing unit ~~311~~ 303.

Please replace paragraph [0060] at page 26, with the following rewritten paragraph:

Fig. 2 is a schematic view indicating a typical structure of the wireless communication apparatus. The wireless transmission module 308 includes an antenna 309, a radio frequency switch 311, a band-pass filter 312, and an ASK detection unit ~~312~~ 313 all functioning in the same manner as their counterparts in the apparatus of Fig. 1. The wireless transmission module 308 also includes phase shifters 320, 321, and 322 connected in series to the antenna 309, as well as radio frequency switches 323, 324, 325 and 326 and a data decoder 327.

Please replace paragraph [0073] at pages 31-32, with the following rewritten paragraph:

Upon receipt of an incoming radio wave, the radio frequency switch 311 is turned on along with the ASK detection unit 313 under control of the signal processing unit ~~311~~ 303. Furthermore, the radio frequency switches 323, 324 and 326 are turned off while the radio frequency switch 325 alone is turned on. With these settings in effect, the incoming signal from the antenna 308 is input to the ASK detection unit 313 via the band-pass filter 312 with a minimum of losses.

Please replace paragraph [0076] at pages 32-33, with the following rewritten paragraph:

Fig. 3 is a schematic view depicting a typical structure of a wireless communication apparatus operating under a back scattering system adopting eight-phase PSK modulation. The apparatus of Fig. 3 includes a wireless transmission module 508 made up of an antenna 509, a radio frequency switch 511, a band-pass filter 512, and an ASK detection unit 512 all functioning in the same manner as their counterparts in the apparatus of Fig. 1. The wireless communication apparatus of Fig. 3 also includes ~~eight~~ seven phase shifters 521, ~~521, 522~~ 522, 523, ..., 527 connected in series to the antenna 509; radio frequency switches 531, 532, 533, ..., 538; and a data decoder 540.

Please replace paragraph [0078] at pages 33-34, with the following rewritten paragraph:

The phase shifters 521, ~~521, 522~~ 522, 523, ..., 527 may each be formed by a line arrangement such as a strip line providing a  $\lambda/16$  shift on the 2.4 GHz frequency band, or by an active phase shifter capable of varying its phase under voltage control. The phase shifters 521, ~~521~~ 522, 522 523, ..., 527 each generate a phase difference of 27.5 degrees for one-way wave passage and a phase difference of 45 degrees for two-way wave passage. Thus turning on and off the radio frequency switches 531, 532, 533, ..., 538 in different combinations provides different signal channels over which reflected waves of the incoming radio wave reciprocate. This arrangement gives eight phase differences to the reflected waves.

Please replace paragraph [0079] at pages 34-35, with the following rewritten paragraph:

For example, if the radio frequency switch 531 alone is turned on, the incoming radio wave is reflected at point “a” in Fig. 3. If the radio frequency switch 532 alone is turned on, the incoming radio wave is reflected at point “b” but the phase of the incoming wave is shifted by 45 degrees relative to that of the reflected wave at point “a” because of wave passage through the phase shifter 521. If the radio frequency switch 533 alone is turned on, the incoming radio wave is reflected at point “c” but the phase of the incoming wave is shifted by 90 degrees relative to that of the reflected wave at point “a” because of wave passage through the phase shifters 521 and 522. Likewise, if the radio frequency switch 538 alone is turned on, the incoming radio wave is reflected at point “h” but the phase of the incoming wave is shifted by 315 degrees relative to that of the reflected wave at point “a” because of wave passage through all ~~eight~~ seven phase shifters ~~421 521~~ through ~~428~~ 527. That is, turning on any one of the radio frequency switches 531, 532, 533, ..., 538 alternatively can generate reflected waves with their eight phases 45 degrees apart from one another.

Please replace paragraph [0081] at pages 35-36, with the following rewritten paragraph:

More specifically, upon receipt of picture data read from the memory card 307 by the signal processing unit 503, the wireless transmission module 508 forwards bit images of the retrieved data to the data decoder ~~527~~ 540. The data decoder ~~527~~ 540 divides the received data into increments of three bits so as to turn on the radio frequency switch 521 alone if the data image is “000,” to turn on the radio frequency switch ~~422~~ 522 alone if the data image is “001,” to turn on the radio frequency switch 523 if the data image is “011,” and so on.

Please replace paragraph [0082] at page 36, with the following rewritten paragraph:

When the data is “000,” the radio frequency switch 531 alone is turned on. This causes the incoming radio wave to be reflected at point “a.” When the data is “001,” the radio frequency switch ~~524~~ 532 alone is turned on. This causes the incoming radio wave to be reflected at point “b.” Because of its passage through the phase shifter 521, the reflected wave has its phase shifted by 45 degrees relative to that of the reflected wave at point “a” where the data is “000.”

Please replace paragraph [0083] at page 36, with the following rewritten paragraph:

When the data is “011,” the radio frequency switch ~~532~~ 533 alone is turned on. This causes the incoming radio wave to be reflected at point “c.” Because of its passage through the phase shifters 521 and 522, the reflected wave has its phase shifted by 90 degrees relative to that of the reflected phase at point “a” where the data is “000.”

Please replace paragraph [0084] at pages 36-37, with the following rewritten paragraph:

When the data is “010,” the radio frequency switch ~~533~~ 534 alone is turned on. This causes the incoming radio wave to be reflected at point “d.” Because of its passage through the phase shifters 521, 522 and 523, the incoming radio wave has its phase shifted by 135 degrees relative to that of the reflected wave at point “a” where the data is “000.” The switching operation entailing radio wave reflection proceeds in like manner.

Please replace paragraph [0088] at page 38, with the following rewritten paragraph:

Upon receipt of an incoming radio wave, the radio frequency switch 511 is turned on along with the ASK detection unit ~~413~~ 513 under control of the signal processing unit ~~511~~ 503. Furthermore, only one of the radio frequency switches 531 through 538 is turned on and the other switches are left off. With these settings in effect, the incoming signal from the antenna ~~408~~ 508 is input to the ASK detection unit ~~413~~ 513 via the radio frequency switch 511 and band-pass filter 512 with a minimum of losses.

Please replace paragraph [0091] at page 39, with the following rewritten paragraph:

The wireless communication apparatus 308 in Fig. 4 is made up of an antenna 309; radio frequency switches 330, 332 and 334; phase shifters 331, 333 and 335 connected in series; and a data decoder ~~326~~ 336. For purpose of simplification and illustration, the radio frequency switch 311, band-pass filter 312, and ASK detection unit ~~312~~ 313 constituting the reception block in Fig. 2 are omitted from Fig. 4.

Please replace paragraph [0093] at pages 40-41, with the following rewritten paragraph:

For example, if the radio frequency switch 330 is turned off, the incoming radio wave is reflected at point “a” in Fig. 4. If the radio frequency switch 330 is turned on and the radio frequency switch 332 is turned off, the incoming radio wave is reflected at point “b” but the phase of the incoming wave is shifted by 90 degrees relative to that of the reflected wave at point “a” because of wave passage through the phase shifter 331. If the radio frequency switches 330 and 332 are turned on and the radio frequency switch 334 is turned off, the incoming radio wave is reflected at point “c” but the phase of the incoming wave is shifted by 180 degrees relative to that of the reflected wave at point “a” because of wave passage

through the phase shifters 331 and ~~334~~ 333. If the radio frequency switches 330, 332 and 334 are all turned on, the incoming radio wave is reflected at point “d” but the phase of the incoming wave is shifted by 270 degrees relative to that of the reflected wave at point “a” because of wave passage through the phase shifters 331, 333 and 335. That is, turning on and off the radio frequency switches 330, 332 and 334 in different combinations can generate reflected waves with their four phases 90 degrees apart from one another.

Please replace paragraph [0098] at page 42, with the following rewritten paragraph:

When the data is “11,” the radio frequency switches 330 and 332 are turned on and the radio frequency switch 334 is turned off. This causes the incoming radio wave to be reflected at point “c.” Because of its passage through the phase shifters 331 and ~~334~~ 333, the reflected wave has its phase shifted by 180 degrees relative to that of the reflected phase at point “a” where the data is “00.”

Please replace paragraph [0131] at page 54, with the following rewritten paragraph:

The wireless communication module 308 in Fig. 8 includes an antenna 901, synthesizing/distributing unit 902, radio frequency switches 903 and 905, a  $\lambda/8$  phase shifter 904 connected serially to the radio frequency switch 905, and a serial/parallel converter 906. For purpose of simplification and illustration, the radio frequency switch 311, band-pass filter 312, and ASK detection unit ~~312~~ 313 constituting the reception block in Fig. 2 are omitted from Fig. 8.